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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,678	01/25/2007	Adrain James Cable	3808.1004-000	4994

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EXAMINER

ANYIKIRE, CHIKAODILI E

ART UNIT	PAPER NUMBER
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2482

MAIL DATE	DELIVERY MODE
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12/28/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/582,678

Applicant(s)

CABLE ET AL.

Examiner

CHIKAODILI E. ANYIKIRE

Art Unit

2482

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 25 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-942)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This application is responsive to application number (10/582678) filed on January 25, 2007. Claims 1-26 are pending and have been examined.

Information Disclosure Statement

2. Acknowledgement is made of applicant's information disclosure statement.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-26 rejected under 35 U.S.C. 102(b) as being anticipated by Amako et al (US 5,589,955, hereafter Amako).

As per **claim 1**, Amako discloses a method of displaying a holographically generated video image comprising plural video frames, the method comprising providing for each frame period a respective sequential plurality of holograms and displaying the holograms of the plural video frames for viewing the replay field thereof, whereby the noise variance of each frame is perceived as attenuated by averaging across said plurality of holograms (column 4 lines 45 – 57 and column 6 lines 40 - 57).

As per **claim 2**, Amako discloses a method according to claim 1, wherein the providing step comprises generating each hologram by implementing an algorithm having a single computationally intensive step (column 4 lines 46 – 50).

As per **claim 3**, Amako discloses a method according to claim 2, wherein the single step is a Fourier transform step (column 4 lines 46 – 50).

As per **claim 4**, Amako discloses a method according to claim 3, wherein the algorithm is arranged, for each said plurality of pixilated holograms, to: a) form first data having amplitude equal to the amplitude of the desired pixel; b) inverse Fourier transform the first data to provide second data; c) shift the second data in the real direction in the complex plane sufficiently to form a third data set in which the phase of each data point is small; d) form as a fourth data set the magnitude of the third data set; and e) binarize the fourth data set to form a fifth data set for display as a said hologram (column 5 lines 40 – 65).

As per **claim 5**, Amako discloses a method according to claim 4 wherein the step of binarization comprises thresholding about the median of the fourth data set whereby the fifth data set has dc balance and low reconstruction error (column 5 lines 40 – 65).

As per **claim 6**, Amako discloses a method according to claim 4 or 5, wherein the display device comprises a spatial light modulator having a pixilated phase mask imposing phase shifts of 0 and $\pi/2$, wherein the algorithm is arranged to generate a four-phase hologram, wherein each pixel has one of the values $[1, j, -1, -j]$ (column 5 lines 50 – 64).

As per **claim 7**, Amako discloses a method according to claim 6, wherein the pixel values of the phase mask are spatially random (column 5 lines 50 – 64 and column 8 lines 50 -60).

As per **claim 8**, Amako discloses a method according to claim 7, wherein step b) comprises inverse Fourier transforming and applying the phase mask values to the first data to provide the second data (column 6 lines 5 – 32).

As per **claim 9**, Amako discloses a method according to claim 1 wherein the image is a 2 dimensional image (column 4 lines 46 - 50).

As per **claim 10**, Amako discloses a method according to claim 3, further comprising forming both the real and imaginary parts of the inverse Fourier transformed first data to form two second data sets, whereby two holograms are created per Fourier transform step (column 4 lines 46 – 50).

Regarding **claim 11**, arguments analogous to those presented for claim 1 are applicable for claim 11.

Regarding **claim 12**, arguments analogous to those presented for claim 2 are applicable for claim 12.

Regarding **claim 13**, arguments analogous to those presented for claim 3 are applicable for claim 13.

Regarding **claim 14**, arguments analogous to those presented for claim 4 are applicable for claim 14.

Regarding **claim 15**, arguments analogous to those presented for claim 5 are applicable for claim 15.

Regarding **claim 16**, arguments analogous to those presented for claim 6 are applicable for claim 16.

Regarding **claim 17**, arguments analogous to those presented for claim 7 are applicable for claim 17.

Regarding **claim 18**, arguments analogous to those presented for claim 8 are applicable for claim 18.

Regarding **claim 19**, arguments analogous to those presented for claim 9 are applicable for claim 19.

Regarding **claim 20**, arguments analogous to those presented for claim 10 are applicable for claim 20.

Regarding **claim 21**, arguments analogous to those presented for claim 4 are applicable for claim 21.

Regarding **claim 22**, arguments analogous to those presented for claim 6 are applicable for claim 22.

Regarding **claim 23**, arguments analogous to those presented for claim 7 are applicable for claim 23.

Regarding **claim 24**, arguments analogous to those presented for claim 8 are applicable for claim 24.

Regarding **claim 25**, arguments analogous to those presented for claim 9 are applicable for claim 25.

Regarding **claim 26**, arguments analogous to those presented for claim 10 are applicable for claim 26.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHIKAODILI E. ANYIKIRE whose telephone number is (571)270-1445. The examiner can normally be reached on Monday to Friday, 7:30 am to 5 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (571) 272 - 7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Marsha D. Banks-Harold/
Supervisory Patent Examiner, Art Unit 2482

/Chikaodili E Anyikire/
Examiner, Art Unit 2482

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